

CLAIMS

What is claimed is:

1. A method of enhancing glucan-mediated committed stem cell proliferation and expansion after injury via the complement system pathway, comprising administering to an individual a therapeutically effective orally bioavailable amount of whole glucan particles, wherein the glucan activates and enhances committed stem cell proliferation via the complement system pathway.
- 5 2. The method of claim 1, wherein the orally administered whole glucan particles are taken up by macrophages, degraded and transported to the committed stem cells, wherein activation of the complement system pathway results from binding of glucan to iC3b deposited on a committed stem cell and proliferation results.
- 10 3. The method of Claim 1, wherein the committed stem cells are selected from the group consisting of committed stem cells from the liver, heart, muscle, kidney and neural tissue.
- 15 4. A method of enhancing tissue repair via committed stem cell recruitment, comprising administering to an individual with an injury a bioavailable amount of whole glucan particles, wherein the glucan activates stem cell proliferation via the complement system pathway and enhances the stem cell recruitment to the site of injury.
- 20 5. A method of enhancing glucan-mediated committed progenitor stem cell recovery after injury via the complement system pathway, comprising administering to an individual a therapeutically effective orally bioavailable amount of whole glucan particles, wherein the glucan binds and activates the complement system pathway wherein committed progenitor stem cells are regenerated and proliferated.
- 25 6. The method of claim 5, wherein the orally administered whole glucan particle is taken up by macrophages, transported to the bone marrow,

degraded and fragments released that prime the CR3 of stem cells activating the stem cells to differentiate and proliferate.

7. The method of Claim 6, wherein the whole glucan particle via the complement system pathway promotes stem cell proliferation and differentiation by binding to iC3b deposited on injured stem cells and activating CR3.
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8. A method of treating injury by delivering an agent and whole glucan particles to the site of injury and enhancing committed stem cell proliferation, comprising administering to an individual with an injury, an agent and whole glucan particles, wherein the whole glucan particles enhances glucan-mediated committed stem proliferation and the agent enhances injury recovery.
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